WO 2005/063048 PCT/IN2003/000472

We claim:

5

10

20

- 1. A process for the preparation of expanded millet, the process comprising;
 - a. equilibrating millet grains to optimum moisture by adding additional water and tempering or resting in order to impart pseudo-elastic texture to decorticated millet endosperm,
 - b. loosening intracellular intactness of the endosperm by mechanical means without developing fissures to obtain bumped millet,
 - c. drying the bumped millet to optimum level for puffing,
 - d. grading the millet obtained in step (c) to near uniform size by screening through appropriate sieves or screens,
 - e. subjecting the grains to high temperature short time treatment in salt, sand or air or such other heat transfer media to prepare expanded millet.
- 2. A process as claimed in claim 1 wherein step (a) above is carried out on hydrothermally treated and decorticated finger millet.
- A process as claimed in claim 1 wherein the decorticated millet is equilibrated to 15 35% moisture level and subjected to bumping or flattening to 0.7 1.0 mm thickness and 1.5 1.6 mm diameter, mechanically or manually, without causing visible cracks.
 - 4. A process as claimed in claim 1 wherein the bumped millet are dried in shade or sun or in mechanical dryer to 10 20% moisture content and subjected to high temperature short time treatment in sand, salt, air or a heat transfer media heated to 200 250°C for 15 45 seconds.
 - 5. A process as claimed in claim 1 wherein step (d) is carried out to obtain millet grains with a thickness of 0.8 1.0 mm and diameter 1.5 1.6 mm.
- 6. A process as claimed in claim 1 wherein the expanded millet prepared is pre-cooked to provide 95-100% carbohydrate digestibility.
 - 7. A process as claimed in claim 1 wherein the millet is selected from the group consisting of finger millet, pearl millet, sorghum and minor millets containing fully or partially gelatinized starch.
- 8. A process as claimed in claim 1 wherein the bumped grains are subjected to high temperature short time treatment in sand or salt, heated to 200 250° C for 30 40 sec and the sand or salt sieved off immediately, or air heated to 180 200° C or in a gun popper or fluidized bed dryer, microwave and infra red heaters.

WO 2005/063048 PCT/IN2003/000472

9. Expanded millet when prepared by the process of claim 1 for use as a ready-to-eat snack, supplementary food, alone or in combination with other edible cereals, pulses, oil seeds, fruits and vegetables, and as an ingredient in confectionery.

- 10. A process as claimed in claim 1 wherein the expanded millet is freed from adhering heat transfer media by brushing or aspiration.
- 11. A process as claimed in claim 1 wherein the expanded millet obtained is free from seed born microflora.
- 12. A process as claimed in claim 1 wherein the expansion ratio of the puffed grains range from 5 to 8 times of its original volume without loss of its original spherical shape and with smooth glossy surface, crispy and spongy texture.
- 13. A process as claimed in claim 1 wherein the expanded millet contains 4 8% protein, 1 1.5% fat, 13 -16% dietary fiber with 98% carbohydrate digestibility.
- 14. A process as claimed in claim 1 wherein the expanded millet is coated with an edible, fruit or vegetable powder, sweetening agent selected from sugar, malt powder, malt extract, and edible colors.

20

15

5

10

25

30